

U.S.S.N. 09/581,890  
Page 2

In the Specification:

Please delete the paragraph on page 4, lines 21-31, and replace it with the following paragraph:

The generation of sufficient numbers of defined neural precursor cells is currently one of the key problems in neural transplantation. At present, precursor cells are isolated from the embryonic mammalian brain. For example, material from up to seven human embryos is required for transplantation of an individual Parkinson patient. Such a strategy is associated with severe problems and cannot be used to treat large numbers of Parkinson patients in the long term. Efforts to proliferate neural cells in vitro prior to transplantation have, so far, not lead to significant improvements. Oncogene-mediated immortalization bears considerable risks due to the introduction of a tumorigenic gene into the donor cells. The order of magnitude of growth factor-mediated proliferation of precursor cells is not sufficient for a potential clinical application. In addition, the ability of expanded cells to incorporate into the host tissue is currently unclear.

Please delete the paragraph on page 18, lines 4-9, and replace it with the following paragraph:

The differentiation of the ES cell-derived glial precursors can be influenced by addition of single factors. Addition of CNTF (ciliary neurotrophic factors) shortly before and during growth factor withdrawal will promote astrocytic differentiation. Addition of the thyroid hormone T3 during this stage will result in enhanced differentiation of oligodendrocytes. Addition of serum-containing media during or after growth factor treatment results in a strong increase in the number of astrocytic cells in these cultures.